

REMARKS

Claims 1 to 20 were previously pending. Claims 6 and 11 have been canceled, and claim 7 has been amended in view of the cancellation of claim 6. New Claims 21 and 22 have been added. Upon entry of the present amendment, claims 1-5, 7-10, 12-22 are pending in the application.

No new matter has been introduced by the foregoing amendments. New Claim 21 contains all the limitations of claim 1 and in addition the limitations of claims 3 and 4. In addition, claim 21 has been amended to recite that the binder containing isocyanate-reactive functional groups is present in the amount of 10 to 40%, by weight, based on the solids of component (I), support for which can be found on page 6, lines 12-14, of the original specification. Claim 21 has also been amended to recite that components (I), (II), and (III) are anhydrous, as supported on page 10, lines 9-11. Support for new claim 22, which recites that the components comprise aromatic and ester solvents can be found on page 7, lines 7-8, as well as in the examples of the present specification.

Reconsideration is respectfully requested in view of the foregoing amendment and the following remarks.

1. Rejection of claims 1-18 under 35 U.S.C. §102(b), as allegedly being anticipated by Hellmann et al. (US 2003/0105230), hereafter “Hellmann”.

The Office action states that Hellmann discloses a modular system comprising components A to E, in which Component A preferably comprises hydroxy functional binders, Component B comprises chlorinated polyolefins, and Component E comprises polyisocyanates. Thus, three of the five components of Hellmann correspond to the three components of the present invention. In particular, the Office Action appears to contend that Component A of Hellmann corresponds to Component (I.1) of claim 1, Component B of Hellmann corresponds to Component (II.1) of claim 1, and Component E of Hellmann corresponds to Component (III.1) of claim 1. This rejection is respectfully traversed.

To recap, the present invention is directed to a multicomponent system which no longer has the disadvantages of the prior art, but instead whose polyisocyanate-curable component is stable on storage and after a period of more than three months shows no phase separation and no sedimentation of its constituents and which shows no irreversible formation of inhomogenities ever after a storage of more than eight months. This is in addition to other requirements such as being highly suitable as adhesion promoters or primers on a wide variety of plastics, so that they can be used in automotive OEM finishing and automotive refinish. (Page 2, lines, 7-22, of the original specification.)

As pointed out on page 1 of the original application, the known multicomponent systems for use as adhesion promoters or primers, after two to three months of storage, were prone to severe phase separation and to sedimentation of the chlorinated polyolefin together with the additives present, such as adjuvants, pigments, and fillers. In order to be at all useful the polyisocyanate-curable component had to be homogenized again. After six to eight months of storage there was irreversible formation of inhomogenities, rendering the polyisocyanate-curable component completely unusable. The cited prior art to Hellmann is a good example of the prior art that can cause storage problems.

Hellmann teaches a modular system for the production of coating compositions for coating plastics comprising the following component modules: A) at least one base module containing at least one binder, extenders and/or pigments, optionally together with conventional coating additives, water and/or organic solvents, B) at least one adhesion module containing at least one adhesion-promoting component optionally together with binders, conventional coating additives, extenders, organic solvents and/or water, C) at least one elasticity module containing at least one elasticising component optionally together with conventional coating additives, extenders, organic solvents and/or water and D) at least one binder module containing at least one binder optionally together with additives, organic solvents and/or water. (Hellmann, abstract).

Independent claim 1 is directed to a multicomponent system comprising at least three components, comprising (I) a component which is free from chlorinated polyolefins and is curable with polyisocyanates, comprising (I.1) at least one binder containing isocyanate-reactive functional groups, and (I.2) at least one organic solvent, (II) a component free from binders (I.1), comprising (II.1) at least one chlorinated polyolefin, and (II.2) at least one organic solvent, and (III) a component comprising at least one polyisocyanate (III.1).

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements “arranged as in the claim.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Furthermore, “[i]n order to anticipate, a piece of prior art must clearly and unequivocally disclose the claimed composition or direct those skilled in the art to the composition without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference”. *In re Arkley*, 59 CCPA 804, 455 F.2d 586, *Air Products & Chemicals, Inc. v. Chas. S. Tanner Co.* 219 USPQ 223, *Perricone v. Medicis Pharmaceutical Corp.*, 267 F.Supp.2d 229.

Applicants respectfully assert that Hellmann does not teach all the elements of independent claim 1. Indeed, Hellmann does not direct one skilled in the art to choose all the elements of independent claim 1 from among the many elements disclosed therein.

Applicants' independent claim 1 recites that component (II) is free from binders (I.1). As such, this recitation is a required limitation of Applicants' claimed invention. There must be no difference between the claimed invention and the disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Res. Found. v. Genentech Inc.*, 18 U.S.P.Q.2d 1001 (Fed. Cir. 1991).

In fact, Hellmann teaches that according to a preferred embodiment, module B) contains binders in addition to the adhesion additive. For example, Hellmann teaches that such binders preferably comprise at least one of the binders which are also used in the base module A). (Hellmann, paragraph [0048]). Hellmann states:

According to a preferred embodiment, the adhesion module B) contains binders in addition to the adhesion additive. Such binders here preferably comprise at least one of the binders which are also used in the base module A). The weight ratio of the adhesion additive to binder in the adhesion module may, for example, be 0.4:1-1:3 (solid to solid).

In fact, all of the examples in Hellmann support the teaching of using a binder in Component B ("The Adhesion Module B") of Hellmann, as shown in the Table bridging the two columns on page 6. It can be seen, in fact, that Component B of Hellmann contains more of the hydroxy-functional binder than Component A, that is, respectively 45 and 47 wt.% of the water-dilutable amino- and hydroxy-functional methacrylate resin (30% in water) are present in Component A and B, respectively. Thus, component B contains a chlorinated polyolefin: binder ratio of 0.4:1, whereas the present invention states that the component containing the chlorinated olefin is free from binders. Component B further contains 11 wt.% of aluminum hydrosilicate and 10 wt.% of titanium oxide. It is clear that the system of Hellmann over time is likely to experience storage problems.

To further contribute to the storage problems of the multicomponent system of Hellmann, it is stated that "The base module A) is preferably used in combination with at least one further module...Due to its comparatively high extender/pigment:binder ratio, the base module A) is not ideally suited for use directly as a finished coating composition, in particular as a primer." Thus, Hellmann preferably uses a second base module designated AII). Hellmann also refers to binder module D) which is combined with at least one of the other modules to yield a finished coating composition. Hellmann states that "Since, by virtue of its composition, the binder module D) is substantially used as a "let-down" component, it is preferably combined with the base module A) to yield a finished coating composition."

Furthermore, Hellmann teaches four modules A) to D), none of which components comprise at least one polyisocyanate in accordance with independent claim 1's component (III). Hellmann teaches that in addition to the modules A) to D) described above, the modular system according to the invention may additionally also contain at least one crosslinking agent module E). (Hellmann, paragraph [0058]).

In addition, Applicants' claim 1 requires at least one organic solvent in component (I). Hellmann teaches that organic solvents and/or water may be present in the base module as component A4). (Hellmann, paragraph [0040]). In fact, all the compositions in the examples of Hellmann are aqueous systems containing water. Therefore, Hellmann does not direct one with ordinary skill in the art to clearly and unequivocally select an organic solvent without any need for picking, choosing, and combining.

Further, pending claim 1 requires at least one organic solvent in component (II). Hellmann teaches that the adhesion module B) may also contain organic solvents and/or water together with further conventional coating additives and/or extenders. (Hellmann, paragraph [0047]). Therefore Hellmann does not direct one with ordinary skill in the art to choose organic solvents from among the several additives and solvents that can be added to B).

In addition, claim 1 requires (III) a component comprising at least one polyisocyanate (III.1). Not only does Hellmann not teach Applicants' component (III) arranged as in claim 1e, but also Hellmann teaches that hydroxyl, isocyanate, acetoacetyl, olefinically unsaturated groups, epoxy, carboxyl, and amino groups, may be considered as crosslinking agents, in addition to polyepoxides, glycidyl-functional polymers, blocked polyamines, carboxy-functional polyesters, polyurethanes, and/or poly(meth)acrylates, and polyfunctional carboxylic acids. That is, Hellmann teaches isocyanates from among about fourteen possible crosslinking agents. Therefore, Hellmann again does not teach one of ordinary skill in the art to choose polyisocyanates without the need for picking, choosing, and combining.

In view of the above, Applicants respectfully assert that the present claims are not anticipated by Hellmann because Hellmann does not teach all the elements of the present claims, and Hellmann does not direct one with ordinary skill in the art to Applicants' independent claim 1 without the need for picking, choosing and combining.

New independent claim 21 further underscores the differences with Hellmann. Claim 21 requires that Component (II) comprises 10 to 35% by weight of at least one chlorinated polyolefin, based on the total amount of Component (II). It is clear from the examples in Hellmann that Component B contains less than 10 wt.% of the chlorinated polyolefin, since 15% of a 40% solution of chlorinated polyolefin is used, which results in 6 wt.% of the chlorinated polyolefin. While, as noted by the Examiner, Component B of Hellmann can contain 18-60 wt.% solids (page 4, paragraph 45, of Hellmann), most of the solids are binders, extenders, and fillers, contrary to the present invention and fatal to the solution to the problem it solves.

In contrast to the composition of Hellmann, 20 percent of Component II comprises the chlorinated polyolefin in the compositions of the present examples. Claim 21 also requires that the multicomponent system is anhydrous whereas the compositions in Hellmann are predominantly aqueous in nature.

Finally, new claim 22 requires that the anhydrous multicomponent system comprise an ester and aromatic solvent. In contrast, as stated above, Hellmann actually uses an aqueous system. In paragraph [0040], on page 3, Hellmann states that "In the case of a modular system for the production of aqueous coating compositions, if organic solvents are necessary, it is preferred to use water-miscible organic solvents."

Withdrawal of this rejection is respectfully requested.

2. **Rejection of claims 19-20 under 35 U.S.C. §103(a), as allegedly unpatentable over Hellmann et al. (US 2003/0105230), as applied to claims 1-18 above, and further in view of Merritt et al. (US 6,939,916), hereafter “Merritt”.**

The Office Action concedes that Hellmann does not teach a system producing a film thickness of up to 10 μm . Merritt is, therefore, cited for teaching adhesion promoter coatings based on chlorinated polyolefins applied at a thickness of 0.254 to 127 μm .

Applicants respectfully traverse this rejection. Merritt cannot correct the above noted deficiencies of Hellmann with respect to claim 1 from which claims 19 and 20 depend. As discussed above, Hellmann does not teach or suggest all the elements of independent claim 1. Merritt does not remedy this. Therefore, Applicants respectfully assert that claim 1 is patentable over the combination of Hellmann and Merritt. Consequently, so are claims 19-20, which depend from and further limit claim 1.

Moreover, Merritt teaches away from the present invention. Merritt teaches an adhesion promoter composition that includes a chlorinated polyolefin and an olefin-based block copolymer that has an olefin block that is substantially saturated and at least one (poly)ester or (poly)ether block. The olefin-based block copolymer can be prepared by reacting an hydroxyl-functional, saturated or substantially saturated olefin polymer with a chain-extension reagent that is reactive with hydroxyl groups and will polymerize in a head-to-tail arrangement of monomer units. (Merritt, abstract). Merritt does not involve the use of a second and third component comprising, respectively, an isocyanate-reactive binder and a polyisocyanate. In fact, Merritt, in a preferred embodiment, reacts the hydroxy functional olefin polymer with a lactone or a hydroxy-functional olefin. (column 5, lines 54-57, of Merritt.) Hence, Merritt teaches away from providing a long-term storage stable system comprising all the required components of the present claim, including a polyisocyanate reactant and a polyisocyanate-curable component in addition to the chlorinated polyolefin. Thus, Merritt takes a completely different approach to obtaining stability in an adhesion promoting composition, an approach that is plainly inconsistent with the approach of Hellmann.

Withdrawal of this rejection is respectfully requested.

The Examiner, in response to Applicants' arguments, contends that the binders in Module B) of Hellmann are "optional" or "may" be present. Likewise, the Examiner states that Hellmann teaches using an organic solvent. Similarly, the Examiner notes that Hellmann teaches that compounds with isocyanate groups are preferably used in accordance with the preferred functionality of the binders used in Module A of Hellmann. It is noted that the Office points, in Hellmann to the preferability of the isocyanate groups while ignoring the preferability of water and binder in combination with the chlorinated polyolefin, as clearly taught by Hellmann. Hence, the rejection is not consistent.

Applicants' submit that a fair reading of Hellmann does not teach the present invention, as quite evident from the actual examples disclosed in Hellmann which are far afield from Applicants' solution to the problem of storage stability for the kind of compositions claimed herein. Thus, only by picking and choosing from "options," "may's," lists, and optional preferences, *in direct contrast with Hellmann's examples*, can one obtain the presently claimed invention. Thus, in order to obtain the present invention of claim 21, for example, one must first decide whether the component containing the chlorinated polyolefin should or should not contain a binder. Hellmann states that binders are preferred and the same binder used in Component A is preferred. This is what occurs in the Examples, i.e., the compositions actually disclosed by Hellmann. Thus, to obtain Applicants' invention, one must choose an alternative that differs from Hellmann's preferences and examples. Next, the crosslinker in Hellmann's system is optional and the crosslinkers that can optionally be used are numerous. One must choose again, namely a specific crosslinker. Then, one must choose how much of the chlorinated polyolefin to use. Hellmann is silent on that point, but in the Examples, Hellmann uses 6 wt.% of the chlorinated polyolefin. Hence, one must choose a higher amount, not disclosed in Hellmann, to obtain Applicants' required minimum of 10 weight percent, while noting that Hellmann's actual composition contains mostly the binders that are excluded by the present claims and the fillers and extenders that are preferably not present according to the present claims. Finally, one must choose an anhydrous system as compared to an aqueous or mixed aqueous-organic solvent system, even though all of Hellmann's teachings are directed to compositions containing mostly water. Thus,

Hellmann teaches optionally organic solvents and/or waters along with optional binders and extenders. Of course, one skilled in the art might question how one can optionally comprise solvents and/or water, as if neither were required. Thus, according to the Office Action, although Hellmann actually teaches, by way of example, an aqueous system, one can optionally choose from: only organic solvents, only water, organic solvents and water, or neither organic solvent or water. Thus, repeated use of “optional” can rationalize hindsight, when the actual teachings of a prior art reference, as they would reasonably be interpreted by one of ordinary skill in the art, not wishing merely a license for undue experimentation, significantly fall short of the claimed invention. Thus, the teachings of Hellmann alone, especially in combination with Merritt, clearly do not solve the problem of the long-term instability of a primer system containing both chlorinated polyolefin and an isocyanate-curable component, which was the purpose of the present invention.

CONCLUSION

Applicants respectfully submit that the Application and pending claims are patentable in view of the foregoing remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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